

IN THE CLAIMS

Claim 1 has been amended as follows:

1. (Currently Amended) A medical device comprising:

a cuff ~~adapted for positioning~~ configured to be positioned in the trachea of a subject with a patient tube that allows the subject to breathe;

a first tube having a first end in fluid communication with an interior of the cuff and having an opposite, second end;

a second tube having a first end in fluid communication with the interior of the cuff and having an opposite, second end;

a pumping device connected to the respective second ends of the first and second tubes ~~for circulating~~ that circulates a fluid through the interior of the cuff; and

said cuff ~~having~~ comprising a membrane that is selectively permeable to a specific substance relative to said fluid, said membrane being disposed to allow transfer through said membrane of said specific substance ~~between~~ from an exterior of the cuff to the interior of the cuff and an exterior of the cuff, said pump, said first and second tubes, and said cuff forming a flow path for said fluid; and

an analysis unit in fluid communication with said flow path that analyzes said fluid with regard to content in said fluid of said substance that has mixed with said fluid from the exterior of the cuff.

Claim 2 has been cancelled.

2. (Cancelled)

Claim 3 has been amended as follows:

3. (Currently Amended) A medical device as claimed in claim [[2]] 1 wherein said analysis unit includes a calculation unit that quantitatively determines an amount of said ~~specific~~ substance in said fluid relative to a predetermined normal amount.

Claim 4 has been amended as follows:

4. (Currently Amended) A medical device as claimed in claim 1 wherein said ~~pumping device, said first and second tubes, and said cuff form a flow path for said fluid, and wherein~~ said medical device comprises a dosing unit in fluid communication with said flow path for ~~administering~~ that administers a dose of a medicament into said fluid.

Claim 5 has been amended as follows:

5. (Currently Amended) A medical device as claimed in claim 4 wherein said analysis unit includes a calculation unit that quantitatively determines an amount of said substance in said fluid relative to a predetermined normal amount, and wherein said dosing unit comprises at least one reservoir for containing at least one additive corresponding to said substance for inclusion, said dosing unit including said additive from said reservoir in said medicament if said analysis unit determines that said amount of said substance in said fluid is below said predetermined normal amount.

6. (Original) A medical device as claimed in claim 1 wherein said cuff comprises at least one partition wall that partitions the interior of said cuff into multiple chambers, each chamber having a first chamber tube with a first chamber tube end in fluid communication therewith and a second chamber tube with a first chamber tube end in fluid communication therewith, and wherein said first chamber tube has a second chamber tube end and said second chamber tube has a second

chamber tube end in fluid communication with said pumping device for circulation of respectively separate fluids through the multiple chambers.

Claim 7 has been amended as follows:

7. (Currently Amended) A medical device as claimed in claim 1 wherein said membrane is permeable to at least one protein, as said specific substance, selected from the group of proteins consisting of SP-A, SP-B, SP-C and SP-D that are present in surfactant.

Add the following new claim:

8. (New) A medical device as claimed in claim 5 wherein said membrane also allows transfer through said membrane of said substance from the interior of the cuff to the exterior of the cuff and wherein said analysis unit, after said dosing unit includes said additive in said medicament, analyzes said fluid with regard to content in said fluid of said substance that has mixed with said fluid from said exterior of the cuff and from said medicament.